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NEW CONODONTS FROM THE NORTHHUNGARIAN TRIASSIC

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ABSTRACT

In this paper three new conodont species are described from the eastern end of the Alsóhegy Karstplateau (southernmost unit of the Silica-nappe) and from the Rudabánya Mountains: *Hindeodella (Metaprioniodus) longobardica* n. sp., *Gondolella auriformis* n. sp., *Metapolygnathus baloghi* n. sp. Finally, some amplifications is added to the knowledge of the *Gondolella foliata* (Budurov) and *Prioniodina tatrica* (Zawidzka). The material described here is reposited in the collection of the Geologic and Paleontologic Department of the József Attila University, Szeged.

Hindeodella (Metaprioniodus) longobardica n. sp.

Pl. I, *Figs. 1–3*, Pl. II, *Fig. 2.*

1972 *Hindeodella (Metaprioniodus)* n. sp. A — Kozur & Mostler, p. 18, Taf. 14, *Fig. 14*

Derivatio nominis: from the occurence in the Longobardian.
Holotypus: the specimen No. 1, Pl. I, *Fig. 3,* Pl. II, *Fig. 2*
Stratum typicum: Longobardian Nádaska Limestone.
Locus typicus: the eastern end of the Alsóhegy Karstplateau, Silica nappe, North Hungary.

Fig. 1. Position of the Alsóhegy (1) and the Rudabányaian-Mts. (2) in North Hungary

Diagnosis: Bars are about of the same length. The first or rarely the second denticle of the anterior bar and the last or next to the last denticle of the posterior bar are longer; sometimes may almost reach the length of the main cusp.

Description: The unit is straight or slightly laterally curved and gently arched. The bars are about of the same long and both bear 3–6 denticles. The first or rarely the second denticle of the anterior bar and the last or next to the last one of the posterior bar are longer; sometimes almost as long as the main cusp. The remain denticles of the anterior bar are somewhat smaller than those of the posterior bar.

The main cusp is of central or subcentral position. All denticles except the larger one of the anterior bar incline slightly posteriorly.

The basal groove is narrow but relatively deep, extends the entire length of the basal edge and enlarges into a compressed but deep cavity beneath the main cusp.

Remarks: This new species stands nearest to the *Hindeodella (Metaprioniodus) multihamata* (HUCKRIEDE), from which it differs by the considerably smaller growth and by that fact that the first denticle is the largest on the anterior bar, before which only rarely can be found a small one.

Occurrence: Up to now this new species has been known from the Longobardian of the Balaton Highland and the eastern end of the Alsóhegy Karstplateau (both Hungary); on the later place constitutes a characteristic Longobardian conodont-assemblage together with *Metapolygnathus mungoensis* (DIEBEL), *Gondolella foliata* (BUDUROV) and *Prioniodina tatrica* (ZAWIDZKA). This species may probably be a guide form of the Longobardian substage.

Material: 65 specimens.

Gondolella auriformis n. sp.

Pl. I, *Figs. 4, 5;* Pl. II, *Fig. 1;*
Pl. III, *Fig. 1;* Pl. VIII, *Fig. 1*

Derivatio nominis: latin, *auris,* meaning ear; referring to the in oral view ear-like platform.

Holotypus: the specimen No. 1, Pl. III, fig. 1.

Stratum typicum: Upper Longobardian red limestone.

Locus typicus: on the ridge south from the north-western side-valley No. 8 of the Telekes valley, Rudabányian Mountains, North Hungary.

Diagnosis: Anterior carina high, fused, posteriorly rapidly decreases in height. Platform short, but wide; in oral view ear-like. Pit is of terminal position on the keel.

Description: The carina is composed of 6–9, rarely 10–11 denticles. Its anterior part high, fused; posteriorly rapidly decreases in height. The main cusp is stronger; in our material there are only three specimens having a small denticle behind it.

The platform begins between the centre and the posterior third of the unit. Its anterior or near to the centre part is the widest, then tapers rapidly; giving together with the upturned platform-margins the the ear-like shape of the platform in oral view. The platform-end is rounded or sometimes squared off, but with rounded corners. On some extreme forms a narrow platform-rudiment can be seen (Pl. I, *Fig. 4),* which may extend to the anterior third of the unit. Near to the platform-end a constriction may appear on one or both side, without taxonomic value. The microstructure of the platform is prismatic (Pl. VIII, *Fig. 1).*

The keel is wide with groove and ends terminally beneath the main cusp in a flaring pit.

Remarks: The new species is in transitional position between the genera *Gondolella* and *Metapolygnathus.* Because species with high carina *(G. excelsa)* and with short platform *(G. tadpole)* can be found in the former genera, as well, and this species has a terminal pit, it is placed still into the genera *Gondolella.*

Gondolella auriformis developed probably from the *Gondolella excelsa* (MOSHER); and bound by a transitional series with the *Metapolygnathus baloghi* n. sp. Therefore, forms can be found within this species, on which the platform-margins on one or both sides are drawn into a node (Pl. I, *Fig. 4*). The boundary between the two

species has been established by that fact, that those specimens having at least on one side two marginal nodes belong already to the *Metapolygnathus baloghi* n. sp.

The *Gondolella auriformis* n. sp. differs from the *Metapolygnathus parvus* KOZUR by the terminal position of the pit and the wider, ear-shaped platform; from the *Gondolella tadpole* HAYASHI by the higher and shorter carina and the non-thickened platform-margins.

Occurrence: ?Middle—Upper-Longobardian; it has been known only from the Rudabánya Mountains up to now.

Material: 68 specimens.

Metapolygnathus baloghi n. sp.

Pl. III, *Fig. 2;* Pl. IV, *Fig. 1;*
Pl. V, *Figs. 1, 2;* Pl. VII. *Figs. 1, 2*

1975 *Epigondolella carnica* sp. n. — KRYSTYN, in KRISTAN-TOLLMANN—KRYSTYN, p. 273—275, only the specimen on Taf. 3, *Fig. 4*

Derivatio nominis: in honour of Prof. Dr. K. BALOGH.

Holotypus: the specimen No. 1, Pl. IV, *Fig. 1*

Stratum typicum: Upper Longobardian red limestone.

Locus typicus: on the ridge south from the north-western side-valley No. 8 of the Telekes valley, Rudabányaian Mountains, North Hungary.

Diagnosis: Very wide, posteriorly tapering, platform, which extends the posterior third—half of the unit. It is widest between its anterior third—half, here with nodes. Anterior carina high, fused, posteriorly rapidly decreases. Pit terminal.

Description: The carina is composed of 7–11 denticles. Its anterior part high, fused; posteriorly rapidly decreases in height. The last denticle, as main cusp, is stronger.

The platform begins between the centre and the posterior third of the unit. On its widest part, which is between the anterior third—half of it, there are 1–4 nodes on both sides, but at least 2 nodes on one side. In our material some specimens can be found with less wide platform and more upturned platform-margins: probably they represent the transition to the *Metapolygnathus carnicus* (KRYSTYN). Posteriorly the platform rapidly tapers; the platform-end rounded or sometimes squared off, but with rounded corners. No nodes are on this part. The microstructure of the platform is prismatic. (Pl. VII, *Figs. 1, 2*).

The keel is wide, with groove, ends terminally beneath the main cusp in a flaring pit.

Remarks: The *Metapolygnathus baloghi* n. sp. differs from any other species of the genera *Metapolygnathus* by its very wide, posteriorly rapidly tapering platform. The relation with the *Gondolella auriformis* n. sp. was discussed above.

Occurrence: Uppermost Ladinian in the Rudabánya Mountains; Lower Carnian at Saklibeli, Taurus Mts., Turkey.

In the type locality from the sample No. R—67 the following conodonts have been recovered, which are interesting of our point of view:

Metapolygnathus baloghi n. sp.	40 exemplars
Gondolella auriformis n. sp.	67 exemplars
Gondolella foliata (BUDUROV)	19 exemplars
Gondolella polygnathiformis BUDUROV & STEFANOV	4 exemplars
From the sample No. R—66, one metre below the R—67:	
Gondolella foliata (BUDUROV)	105 exemplars
Gondolella auriformis n. sp.	1 exemplars

As it can be seen, the first representatives of the *G. polygnathiformis*, beside the predominance of the *G. foliata*, have already appeared in the sample No. R—67. Because they take their first appearance in the *archelaus*zone at Saklibeli (KRYSTYN, 1975), we assume theUpper Longobardian age of this conodont assemblage.

Material: 40 specimens.

Gondolella foliata (BUDUROV, 1975)

Pl. VI, *Figs. 2, 3*

1975 *Paragondolella foliata* sp. n. — BUDUROV, p. 79—80, Taf. 1, *Fig. 1—22*
1975 *Gondolella excelsa* (MOSHER) — KRYSTYN, in KRISTAN-TOLLMANN—KRYSTYN, Taf. 3, *Fig. 7*
1976 *Paragondolella foliata* BUDUROV — BUDUROV, p. 101, Taf. II, *Fig. 18, 35*

Remarks: In our material (more than 250 specimens) all transition can be found between forms with rounded platform-end and loop and forms with squared off platform-end and loop (such as the holotype). Therefore the latter feature seems to be an intraspecific variation.

The *Gondolella foliata* represents the transition between *Gondolella excelsa* (MOSHER) and *Gondolella polygnathiformis* BUDUROV & STEFANOV. At the eastern end of the Alsóhegy the last representatives of *G. excelsa* occur in the *hungaricus*-subzone and *G. foliata* appear first in the *mungoensis*-zone. Already MOSHER [1973, p. 150] reported from this transition between *G. excelsa* and *G. polygnathiformis*, however, at that time the species *G. foliata* was not yet established.

In the investigated area this species ranges at least to the base of the range of the *G. polygnathiformis.*

Prioniodina tatrica (ZAWIDZKA, 1972)

Pl. VI, *Fig. 1;* Pl. VII, *Fig. 2*

1972 *Neospathodus tatricus* sp. n. — ZAWIDZKA, p. 462—463, *Fig. 2*, Pl. 1, *Figs. 1—3, 5*
1974 *Prioniodina tatrica* (ZAWIDZKA) — BECHSTÄDT—MOSTLER, p. 40—41.

Remarks: In the investigated area this species does not occur in the fairly rich Pelsonian-Fassanian conodont-fauna; but frequent in the Longobardian. Only one specimen was found at the base of the range of the *Gondolella polygnathiformis* BUD. & STEF.

Other occurrences: Upper Anisian? or Lower Ladinian? of the Choč nappe, Tatra Mts., Poland; Longobardian of the Northern Limestone Alps.

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EXPLANATION OF THE PLATES I—VIII

PLATE I

1. *Hindeodella (Metaprioniodus) longobardica* n. sp. Spec. No. 3. T—364*. 200x
2. *Hindeodella (Metaprioniodus) longobardica* n. sp. Spec. No. 2. T—364. 200x
3. *Hindeodella (Metaprioniodus) longobardica* n. sp. Holotypus. T—364. 3a:200x; 3b: The basal edge with the keel and the groove. 325x
4. *Gondolella auriformis* n. sp. Spec. No. 3. Transitional form to the *Metapolygnathus baloghi* n. sp., the platform-margins are drawn into a node on both side. R—67. 360x
5. *Gondolella auriformis* n. sp. Spec. No. 7. Juvenile form. R—67. 270x

PLATE II

1. *Gondolella auriformis* n. sp. Spec. No. 2. R—67. 1a: 360x; 1b: 270x
2. *Hindeodella (Metaprioniodus) longobardica* n. sp. Holotypus. T—364. The basal cavity beneath the main cusp. 970x

PLATE III

1. *Gondolella auriformis* n. sp. Holotypus. R—67. 360x
2. *Metapolygnathus baloghi* n. sp. Spec. No. 2. R—67. 270x

PLATE IV

1. *Metapolygnathus baloghi* n. sp. Holotypus. R—67. 270x

PLATE V

1. *Metapolygnathus baloghi* n. sp. Spec. No. 8. R—67. 270x
2. *Metapolygnathus baloghi* n. sp. Spec. No. 6. Juvenile form. R—67. 270x

PLATE VI

1. *Prioniodina tatrica* (ZAWIDZKA). T—364. 270x
2. *Gondolella foliata* (BUDUROV). T—364. 140x
3. *Gondolella foliata* (BUDUROV). R—67. 140x
4. *Gondolella polygnathiformis* BUDUROV & STEFANOV. R—67. 140x

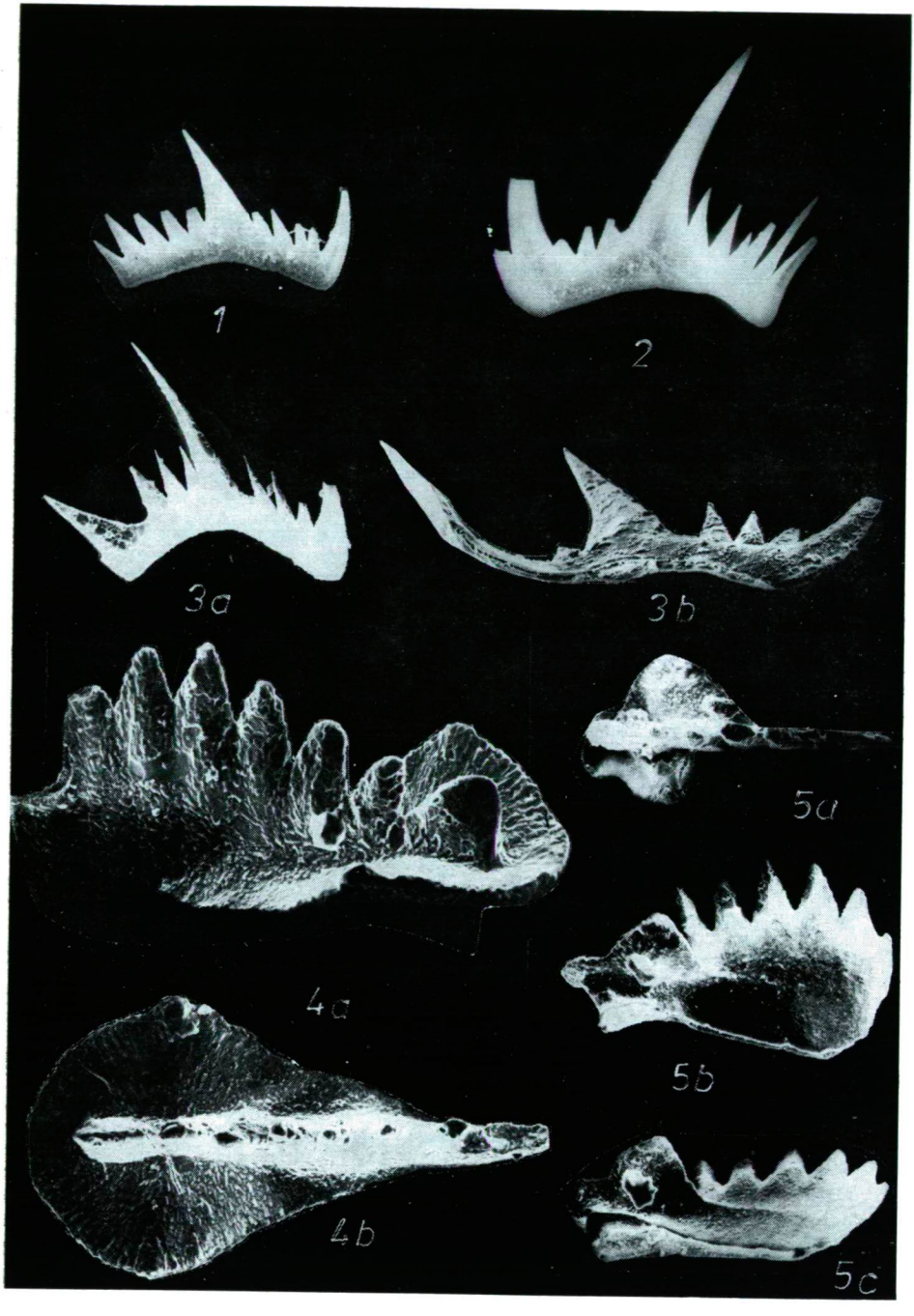
PLATE VII

1—2. *Metapolygnathus baloghi* n. sp. Spec. No. 2. 650x
1. The prismatic microstructure of the platform.
2. The aboral view of the platform with the flared pit.

PLATE VIII

1. *Gondolella auriformis* n. sp. Spec. No. 3. The prismatic microstructure of the platform. Oral view. 1300x
2. *Prioniodina tatrica* (ZAWIDZKA). The striated surface of the main cusp. 790x

* Samples: T—364: from the eastern end of the Alsóhegy-Karstplateau; R—67: from the Rudabányaian-Mts.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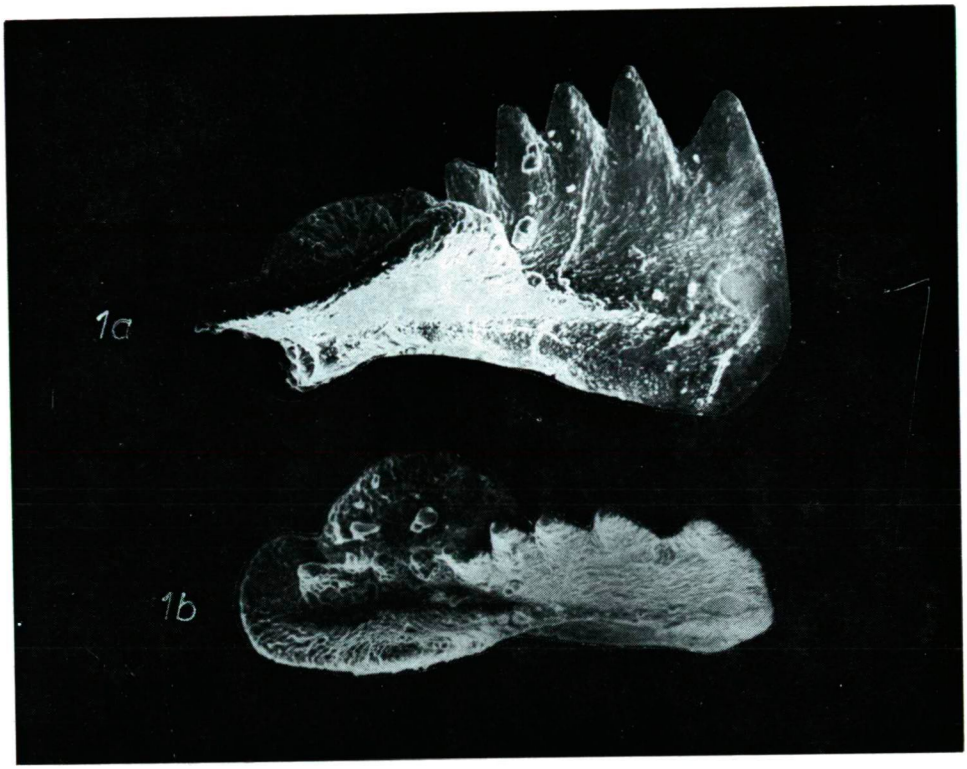
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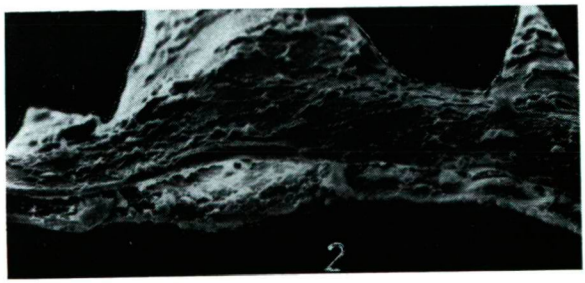
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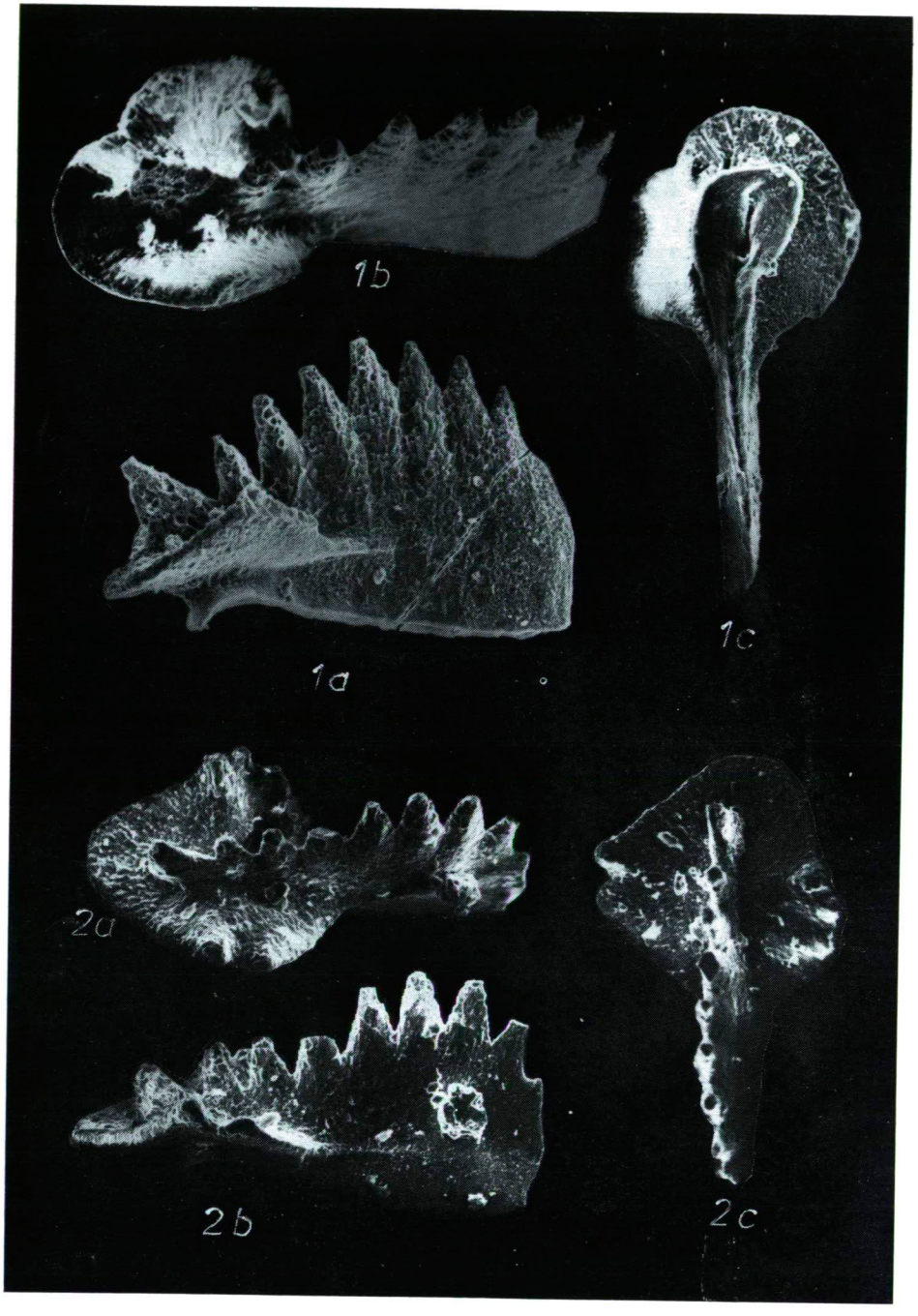
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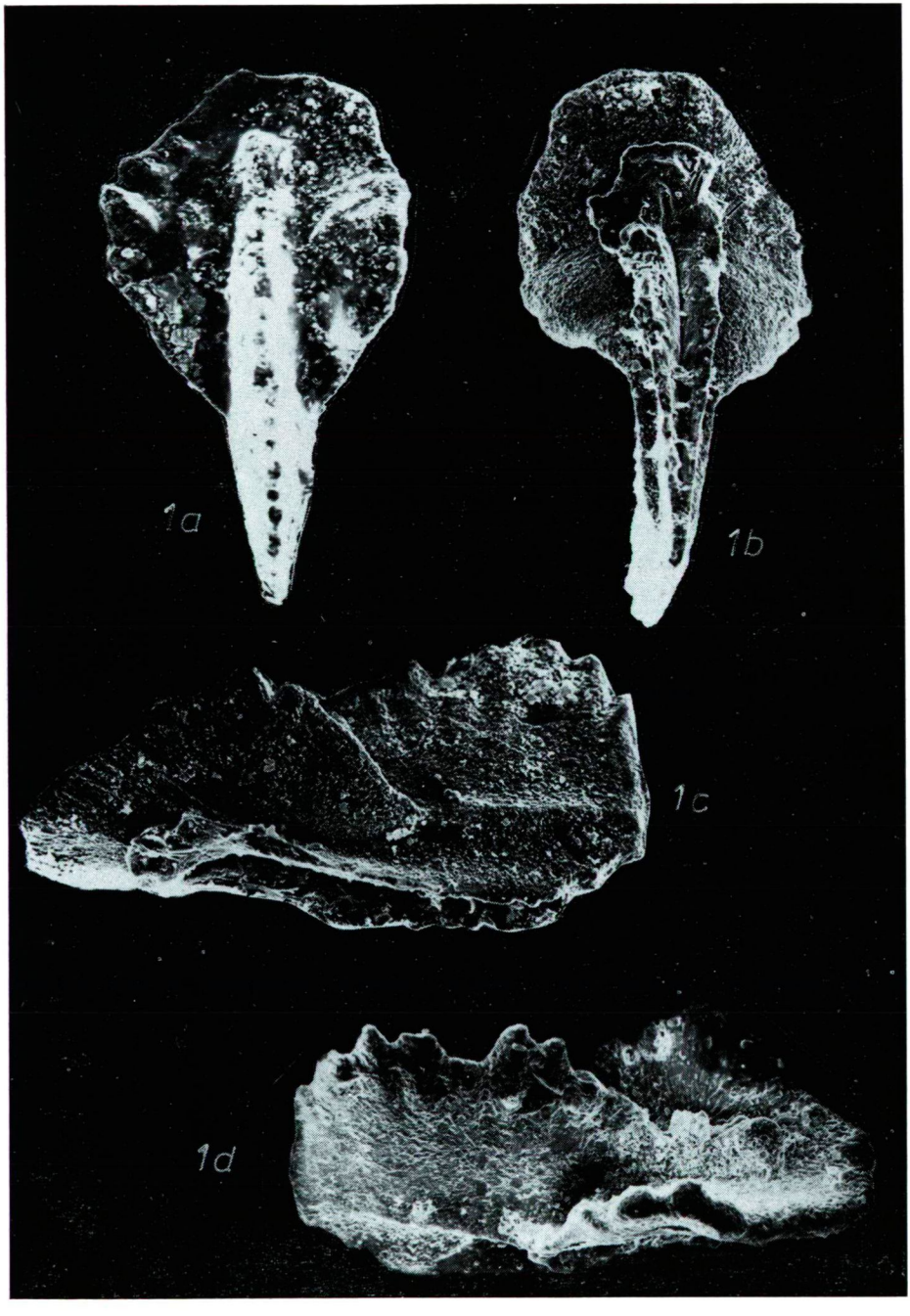
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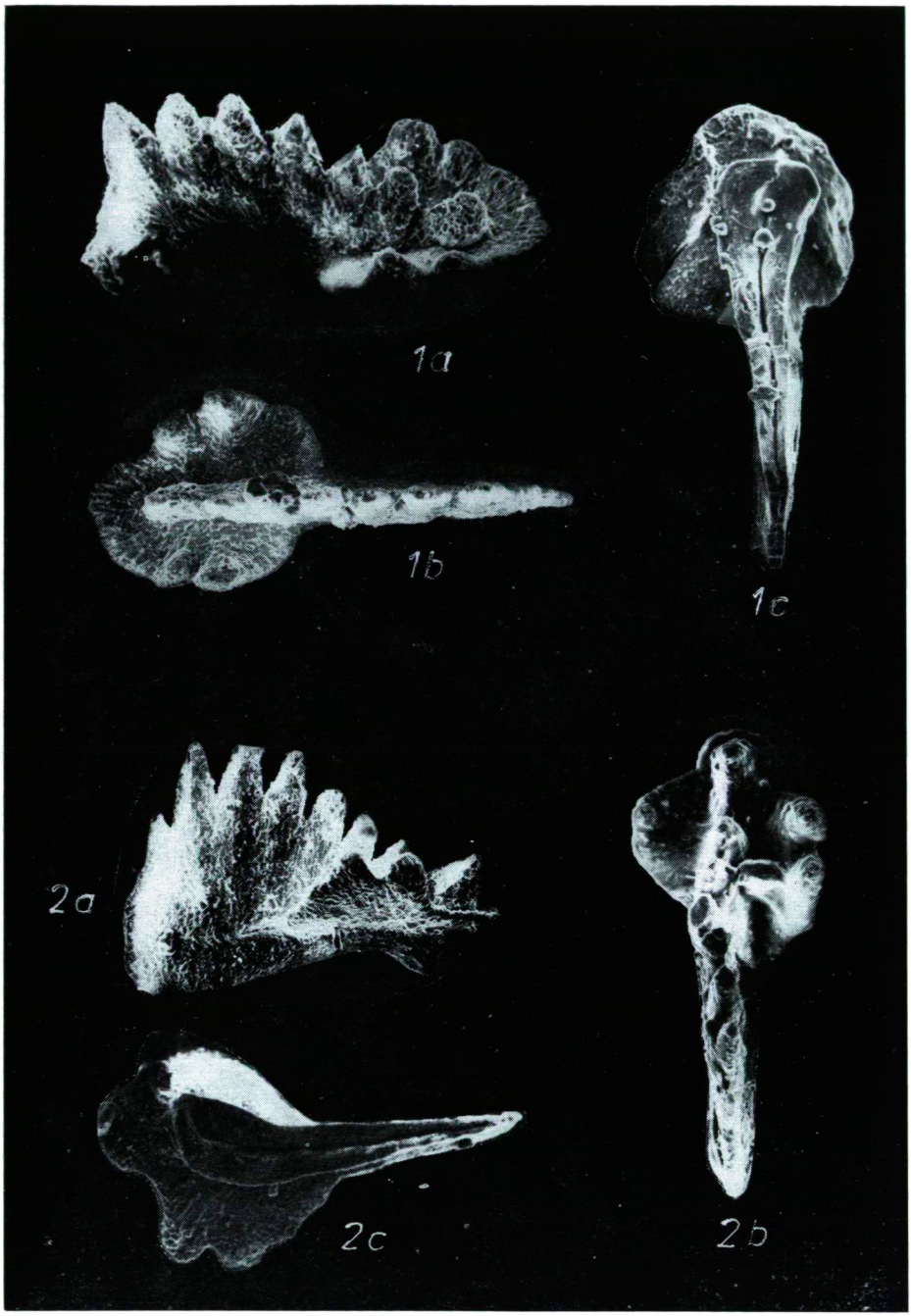
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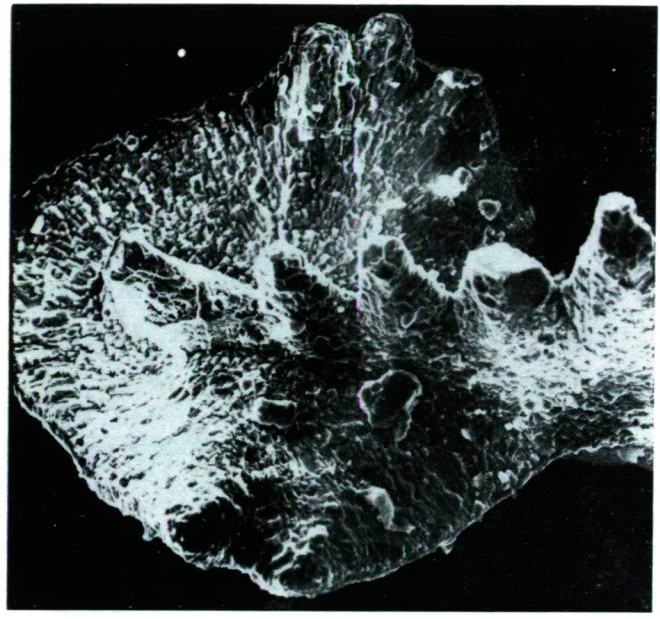

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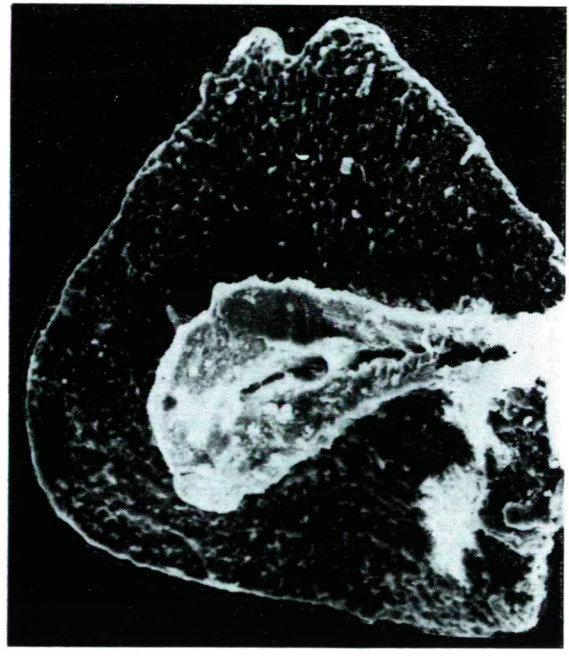

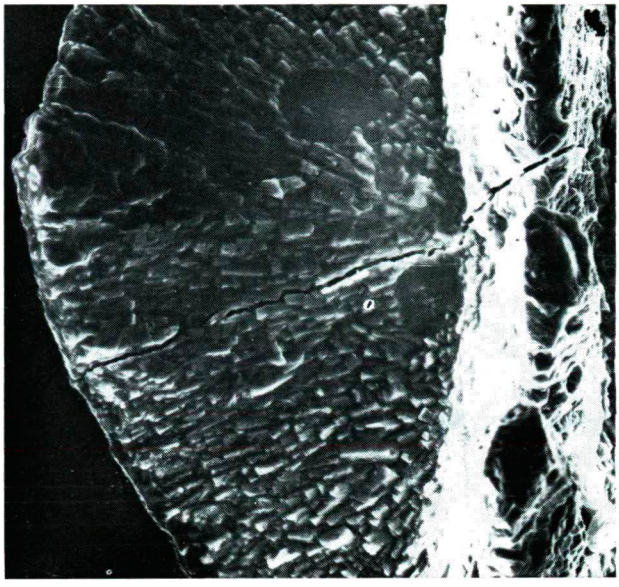

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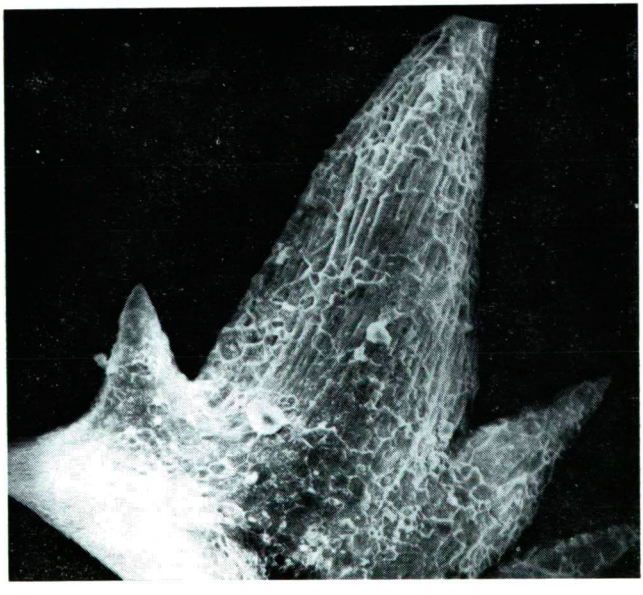

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REFERENCES

BECHSTÄDT, T., MOSTLER, H. [1974]: Mikrofazies und Mikrofauna mitteltriadischer Beckensedimente der Nördlichen Kalkalpen Tirols. Geol. Paläont. Mitt. Innsbruck, *4*, 5/6, p. 1—74, Innsbruck.

BUDUROV, K. [1975]: *Paragondolella foliata* sp. n. (Conodonta) von der Trias des Ost-Balkans. Rev. Bulg. Geol. Soc., *36*, 1, p. 79—80, Sofia.

BUDUROV, K. [1976]: Die Triassischen Conodonten des Ostbalkans. Geol. Balcanica, *6*, 2, p. 95—104, Sofia.

HAYASHI, S. [1968]: The Permian Conodonts in Chert of the Adoyama Formation, Ashio Mountains, Central Japan. Earth Science, *22*, 2, p. 63—77, Tokio.

KOZUR, H. [1972]: Die Conodontengattung *Metapolygnathus* HAYASHI 1968 und ihr stratigraphischer Wert. I. Geol. Paläont. Mitt. Innsbruck, *2*, 11, p. 1—37, Innsbruck.

KOZUR, H. [1974]: Die Conodontengattung *Metapolygnathus* HAYASHI 1968 und ihr stratigraphischer Wert. II. Geol. Paläont. Mitt. Innsbruck, *4*, 1, p. 1—35, Innsbruck.

KOZUR, H., MOSTLER, H. [1972]: Die Conodonten der Trias und ihr stratigraphischer Wert. I. Die „Zahnreichen—Conodonten" der Mittel- und Obertrias. Abh. Geol. B.—A., *28*, 1, p. 1—53, Wien.

KRISTAN-TOLLMANN, E., KRYSTYN, L. [1975]: Die Mikrofauna der ladinisch-karnischen Hallstätter Kalke von Saklibeli (Taurus-Gebirge, Türkei) I. Sitz. ber. Österr. Akad. Wiss. Math.-naturw. Kl. Abt. I, *184*, 8—10, p. 259—340, Wien.

MOSHER, L. C. [1973]: Triassic Conodonts from British Columbia and the Northern Arctic Islands. Bull. Canada. Geol. Surv., *222*, p. 141—192, Ottawa.

ZAWIDZKA, K. [1972]: Stratigraphic position of the Furkaska limestones (Choč nappe, the Tatra Mts). Acta Geol. Pol., *22*, 3, p. 459—466, Warszawa.

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